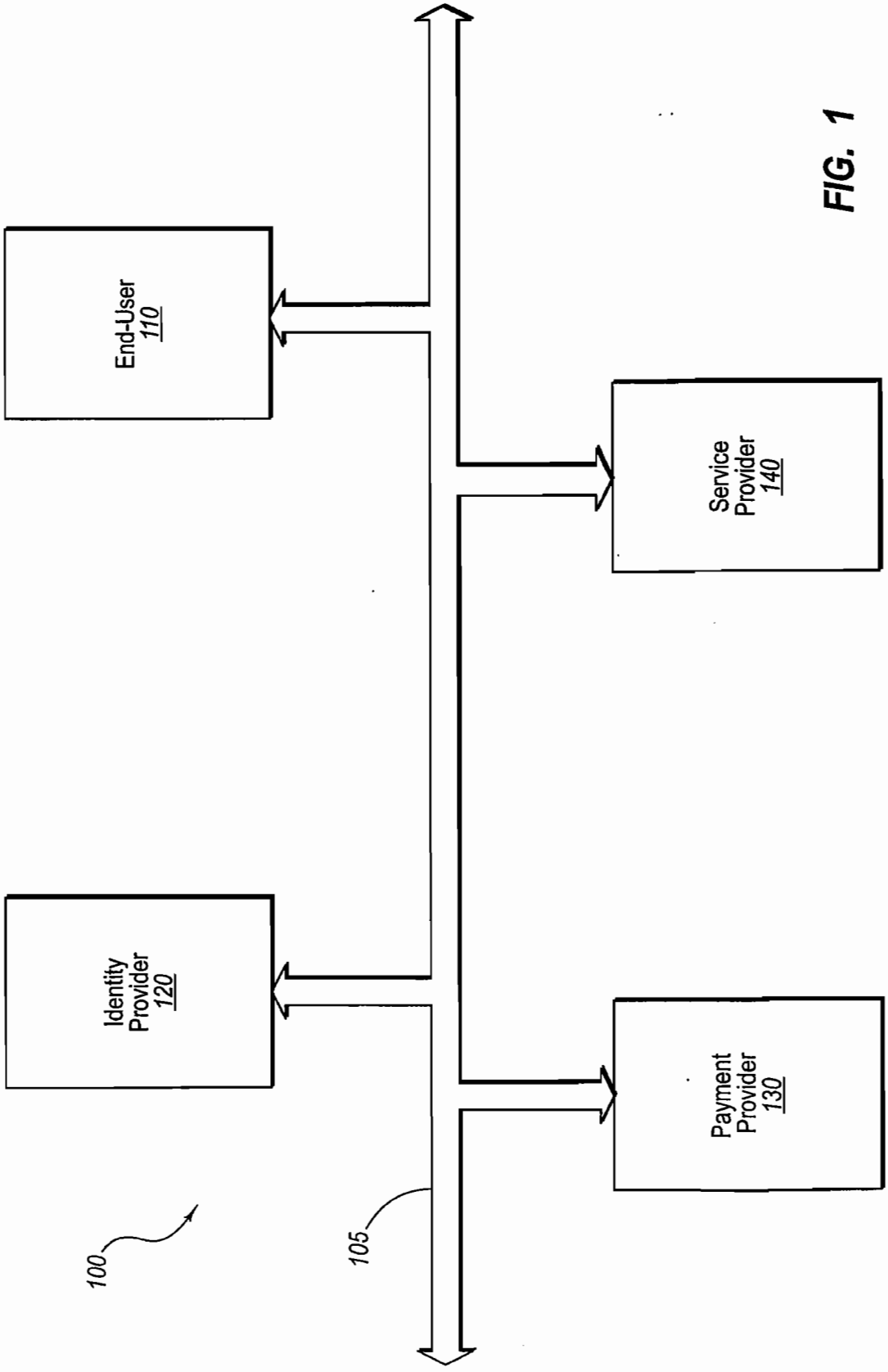
End-User
110
Service
Provider
140
Identity
Provider
120
Payment
Provider
130
100
105

FIG. 1

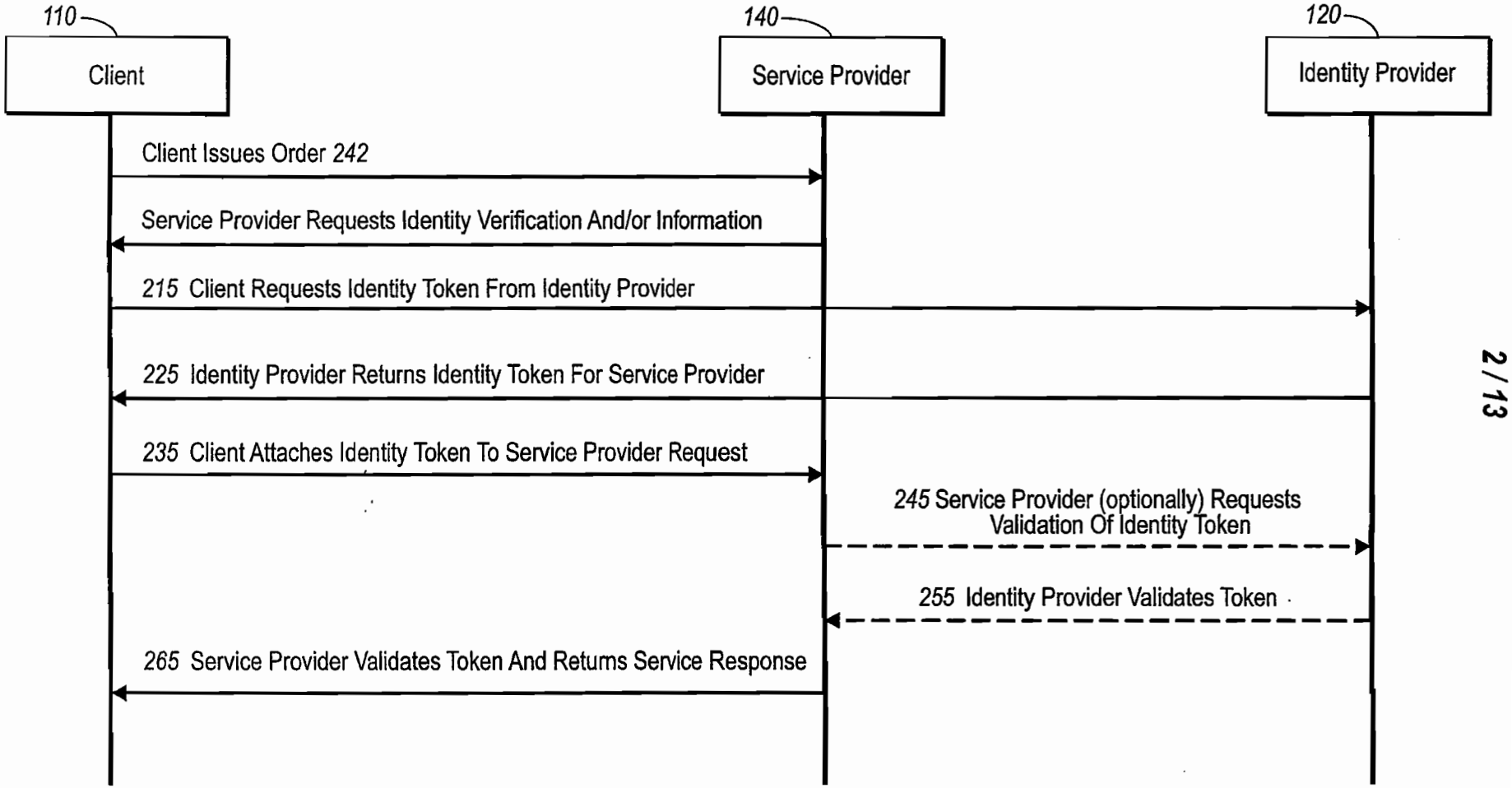
110
Client
140
Service Provider
120
Identity Provider
Client Issues Order 242
Service Provider Requests Identity Verification And/or Information
215 Client Requests Identity Token From Identity Provider
225 Identity Provider Returns Identity Token For Service Provider
235 Client Attaches Identity Token To Service Provider Request
245 Service Provider (optionally) Requests Validation Of Identity Token
255 Identity Provider Validates Token
265 Service Provider Validates Token And Returns Service Response

FIG. 2

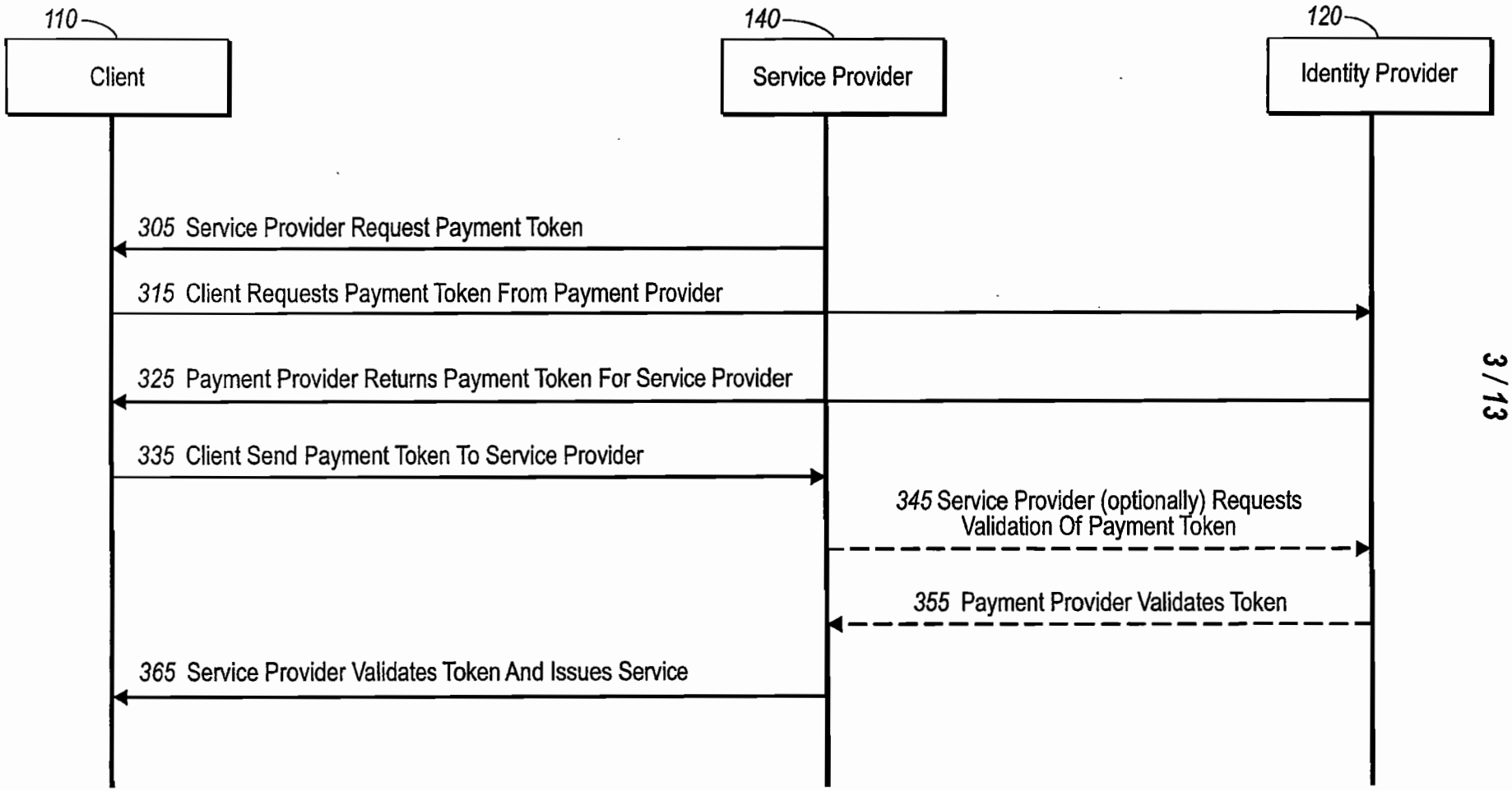
110
Client
140
Service Provider
120
Identity Provider
305 Service Provider Request Payment Token
315 Client Requests Payment Token From Payment Provider
325 Payment Provider Returns Payment Token For Service Provider
335 Client Send Payment Token To Service Provider
345 Service Provider (optionally) Requests Validation Of Payment Token
355 Payment Provider Validates Token
365 Service Provider Validates Token And Issues Service

FIG. 3

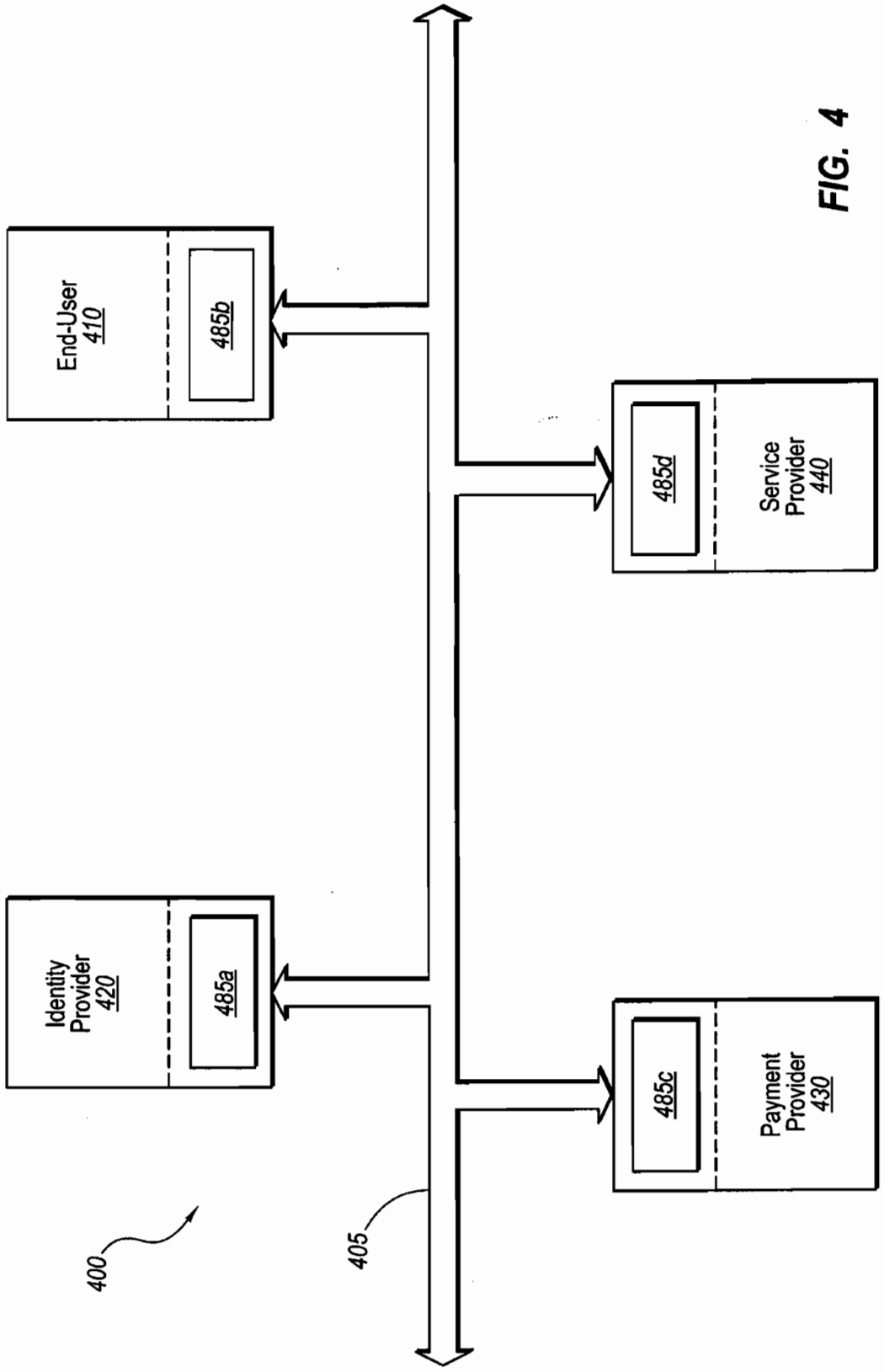
End-User
410
485b
Service
Provider
440
485d
Identity
Provider
420
485a
Payment
Provider
430
485c
400
405

FIG. 4

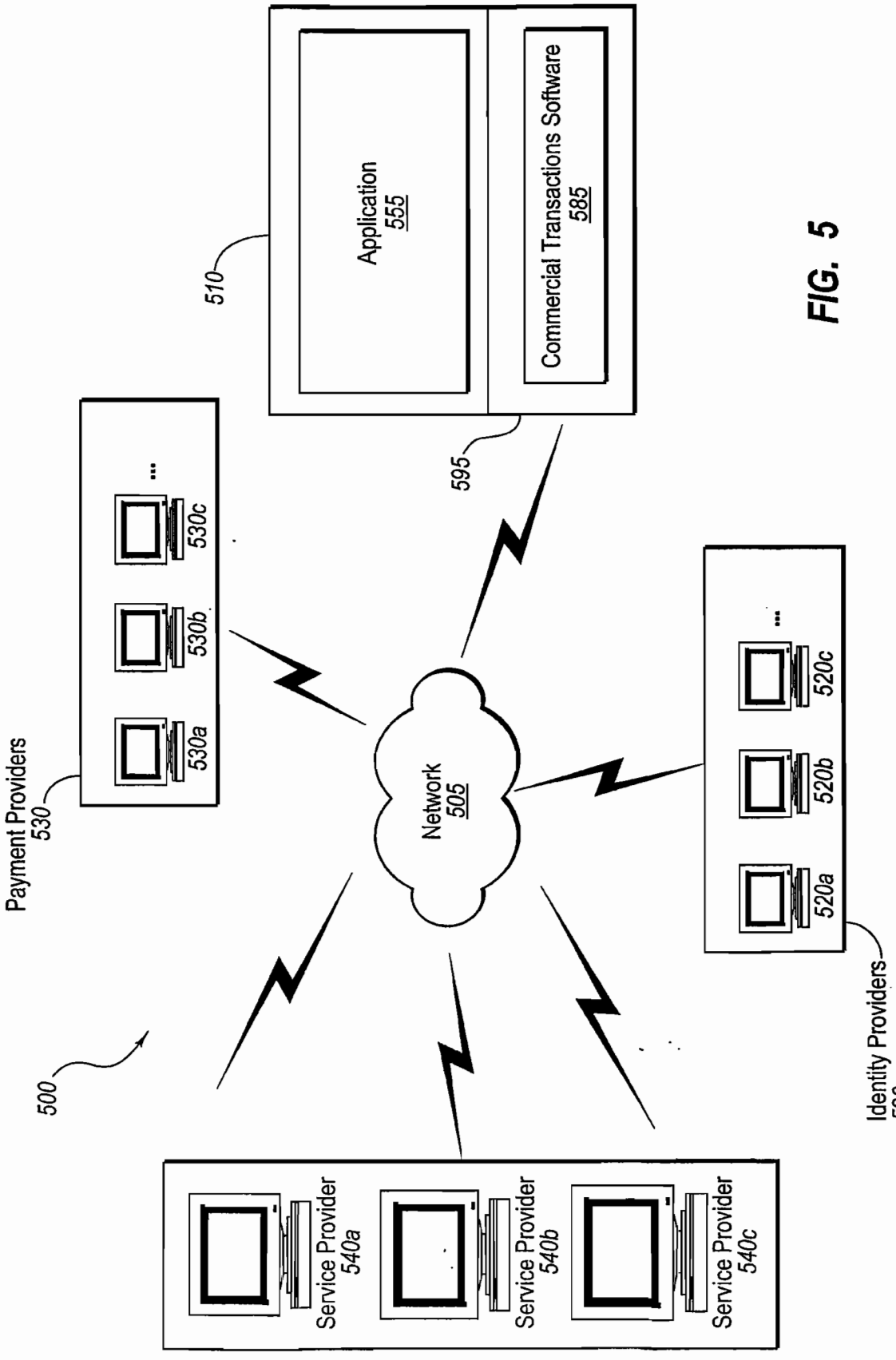
500
510
Application
555
Commercial Transactions Software
585
595
Network
505
Payment Providers
530
530a
530b
530c
Identity Providers
520
520a
520b
520c
Service Provider
540a
Service Provider
540b
Service Provider
540c

FIG. 5

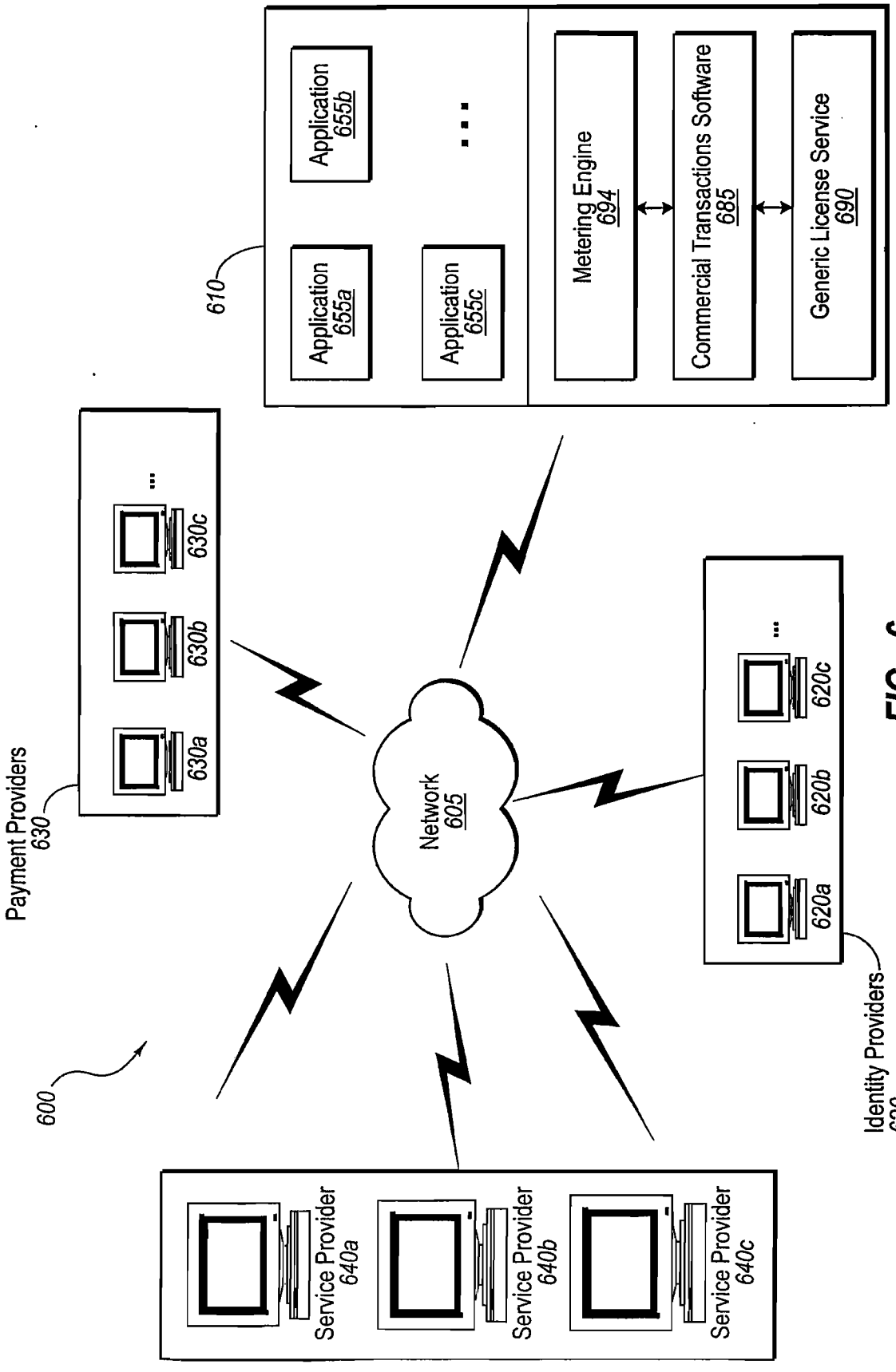
600
610
Application 655a
Application 655b
Application 655c
Metering Engine 694
Commercial Transactions Software 685
Generic License Service 690
Payment Providers 630
630a
630b
630c
Network 605
Identity Providers 620
620a
620b
620c
Service Provider 640a
Service Provider 640b
Service Provider 640c

FIG. 6

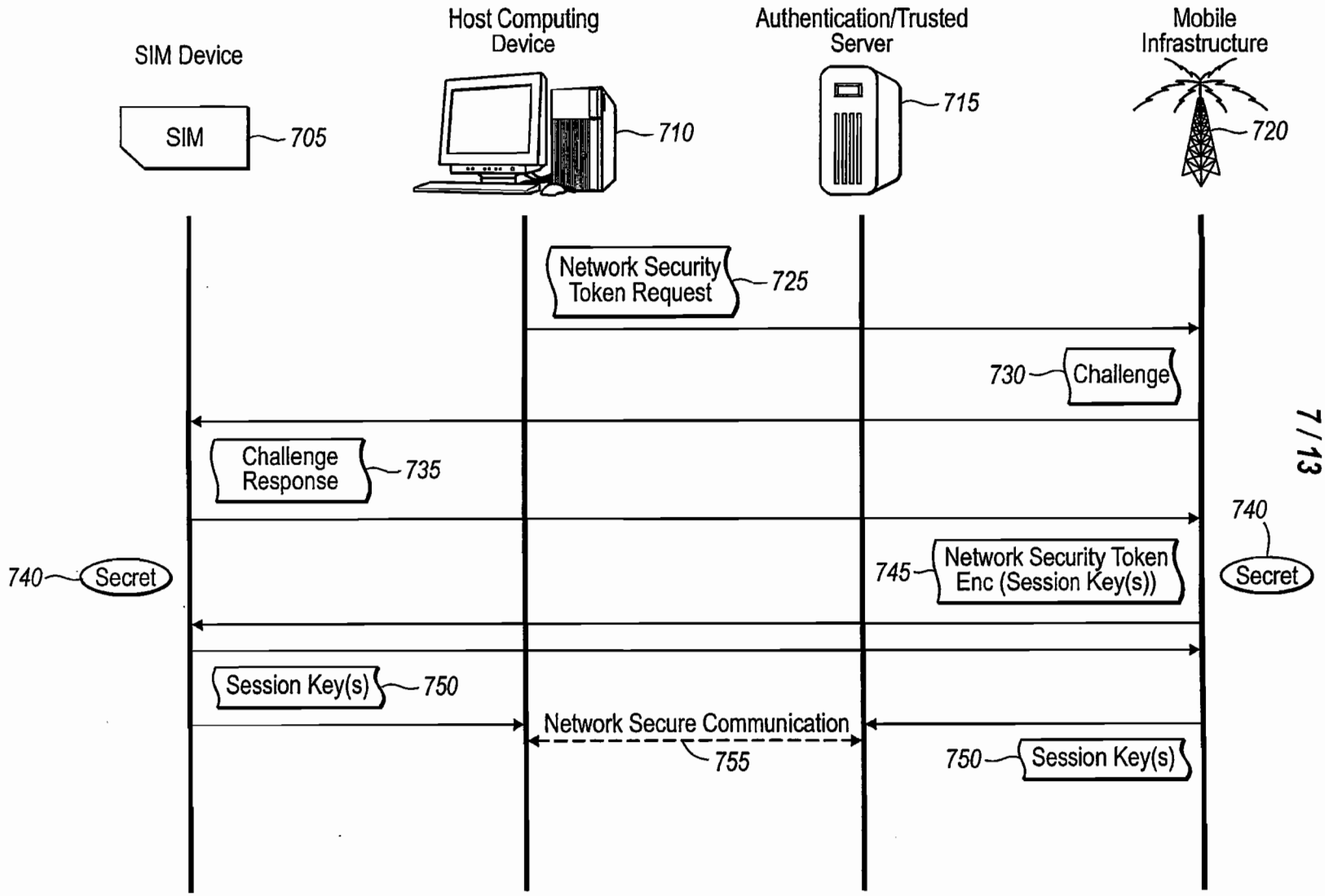
Independent Network 700
SIM Device
SIM
705
Host Computing Device
710
Authentication/Trusted Server
715
Mobile Infrastructure
720
Network Security Token Request
725
730
Challenge
Challenge Response
735
740
Secret
740
Secret
745
Network Security Token Enc (Session Key(s))
Session Key(s)
750
Network Secure Communication
755
750
Session Key(s)

FIG. 7A

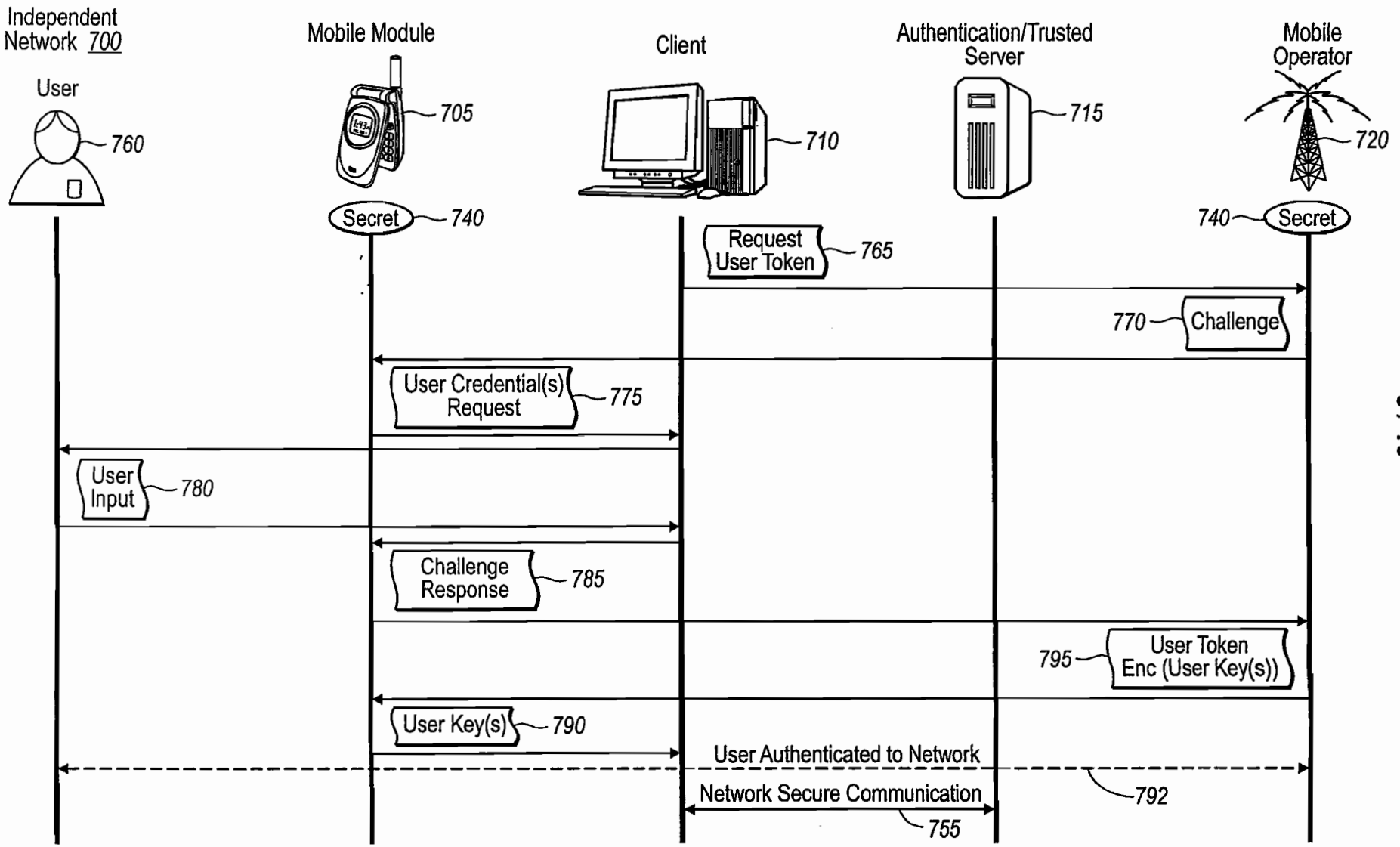
Independent Network 700
User
760
Mobile Module
705
Secret
740
Client
710
Authentication/Trusted Server
715
Mobile Operator
720
740
Secret
Request User Token
765
770
Challenge
User Credential(s) Request
775
User Input
780
Challenge Response
785
795
User Token Enc (User Key(s))
User Key(s)
790
User Authenticated to Network
792
Network Secure Communication
755

FIG. 7B

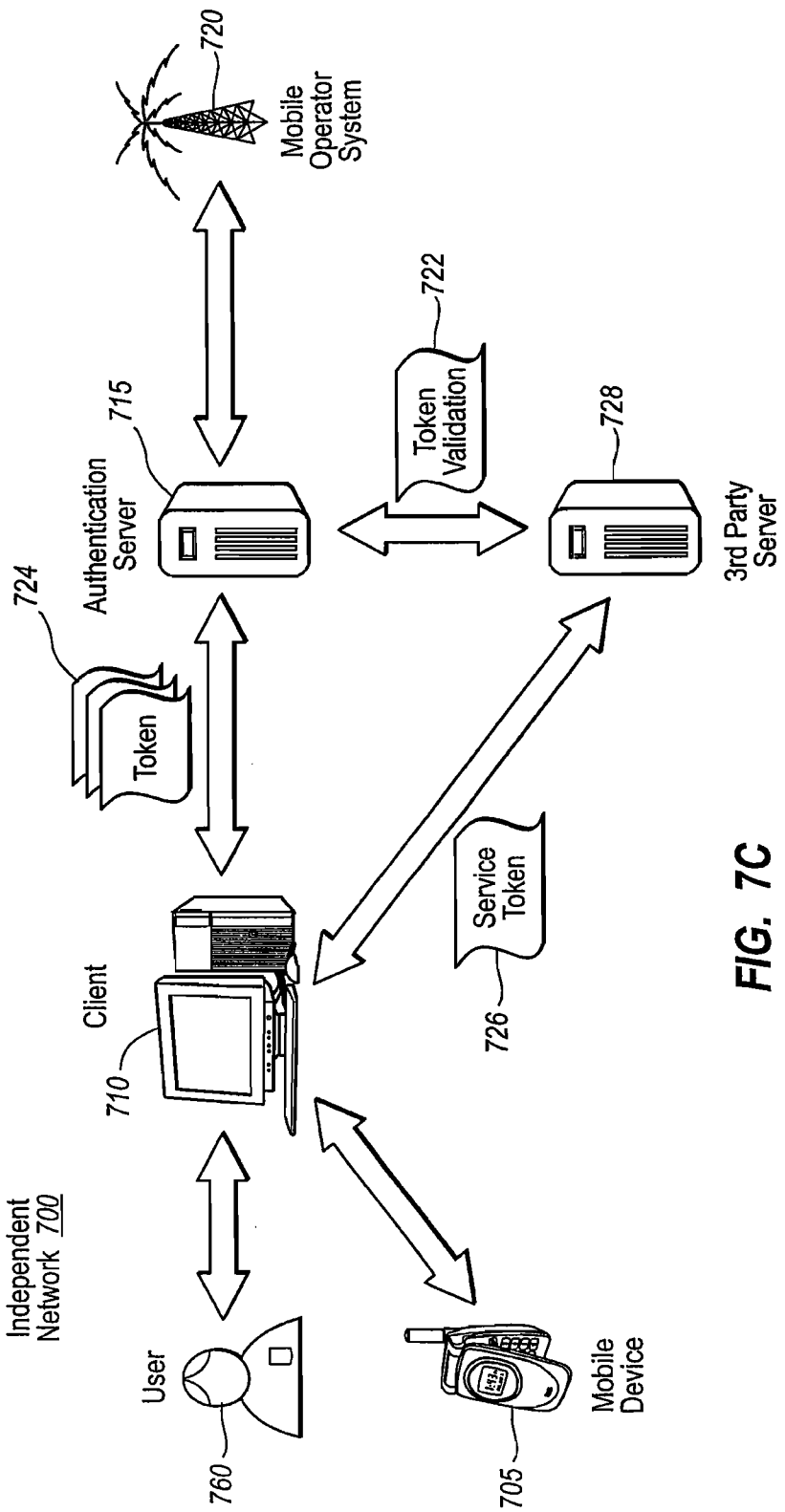
720
Mobile Operator System
722
Token Validation
728
3rd Party Server
715
Authentication Server
724
Token
Service Token
726
Client
710
Independent Network 700
User
760
Mobile Device
705

FIG. 7C

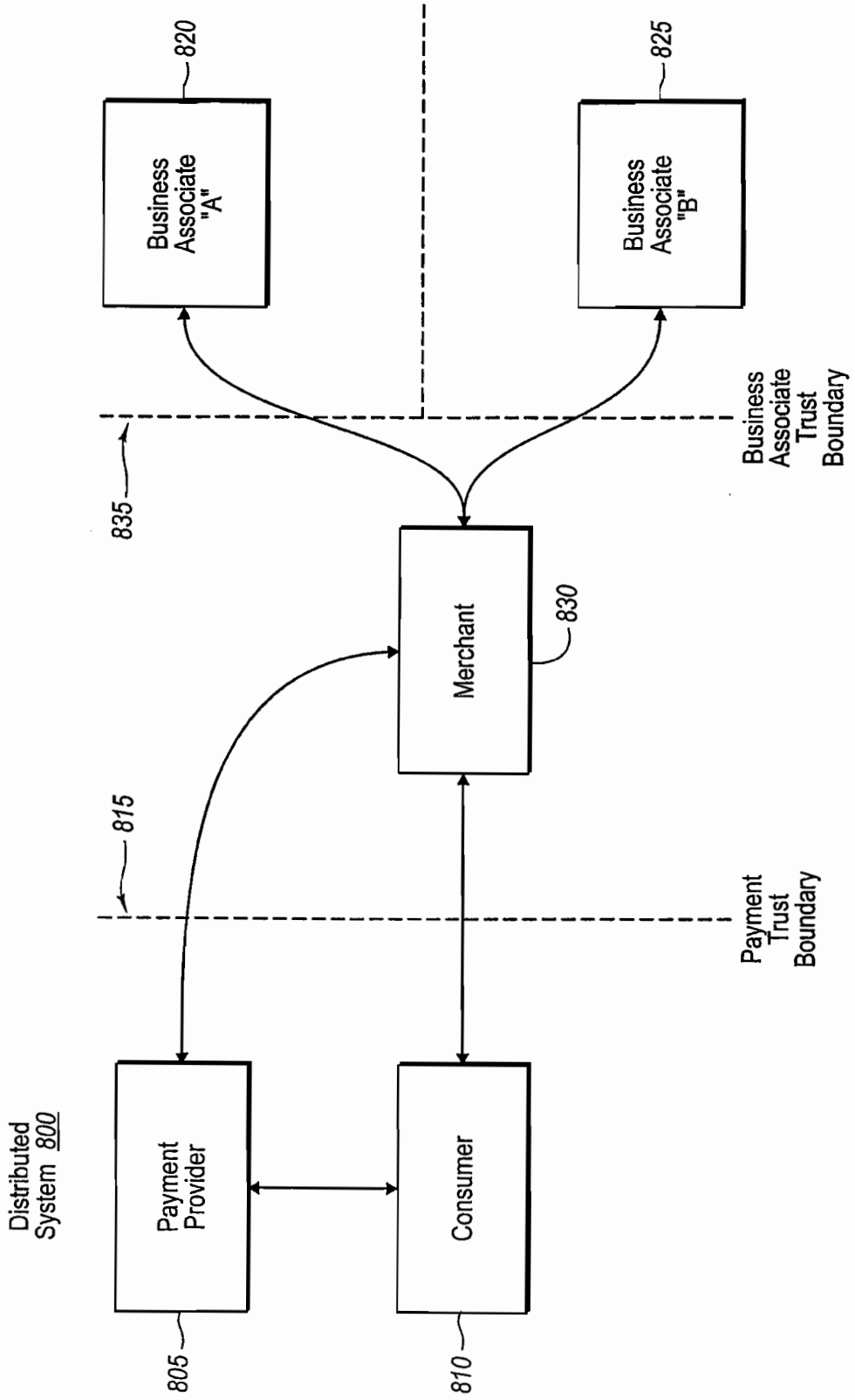
Distributed System 800
Payment Provider
805
Consumer
810
Merchant
830
815
Payment Trust Boundary
835
Business Associate Trust Boundary
Business Associate "A"
820
Business Associate "B"
825

FIG. 8

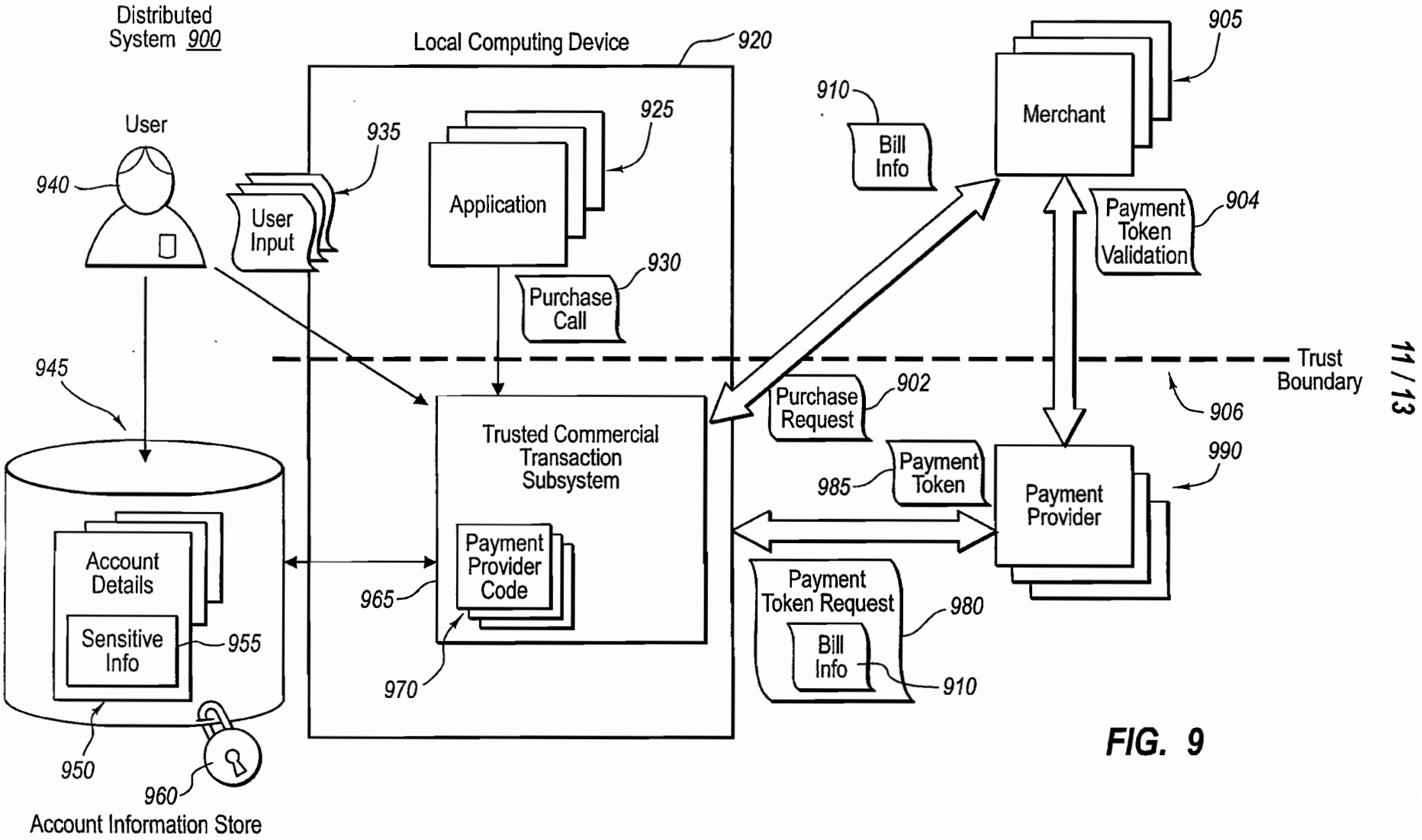
Distributed System 900
Local Computing Device
920
User
940
935
User Input
925
Application
930
Purchase Call
910
Bill Info
905
Merchant
904
Payment Token Validation
Trust Boundary
906
945
Trusted Commercial Transaction Subsystem
902
Purchase Request
985
Payment Token
990
Payment Provider
Account Details
Sensitive Info
955
965
Payment Provider Code
970
Payment Token Request
980
Bill Info
910
950
960
Account Information Store

FIG. 9

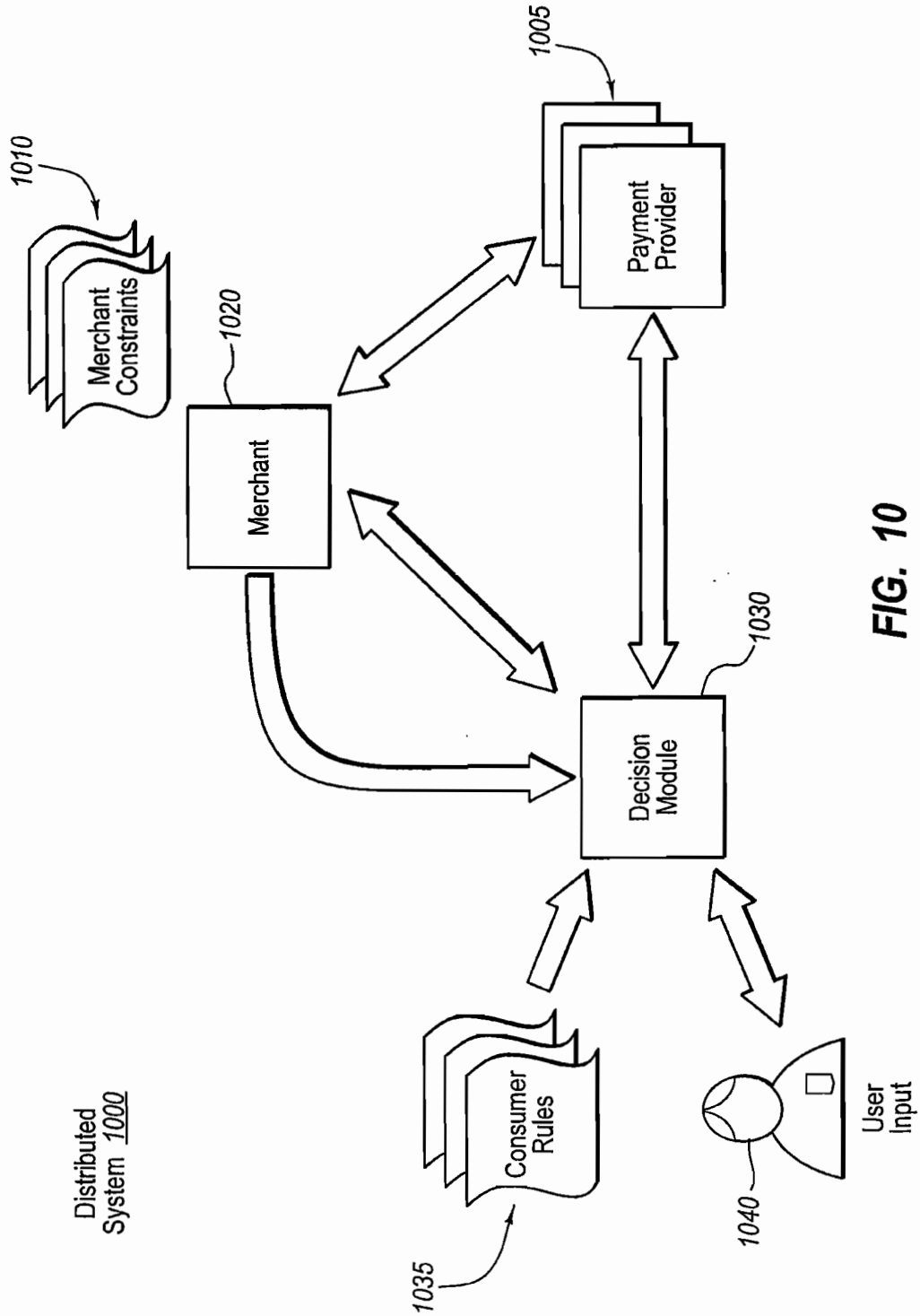
Distributed System 1000
1010
Merchant Constraints
1020
Merchant
1005
Payment Provider
1030
Decision Module
1035
Consumer Rules
1040
User Input

FIG. 10

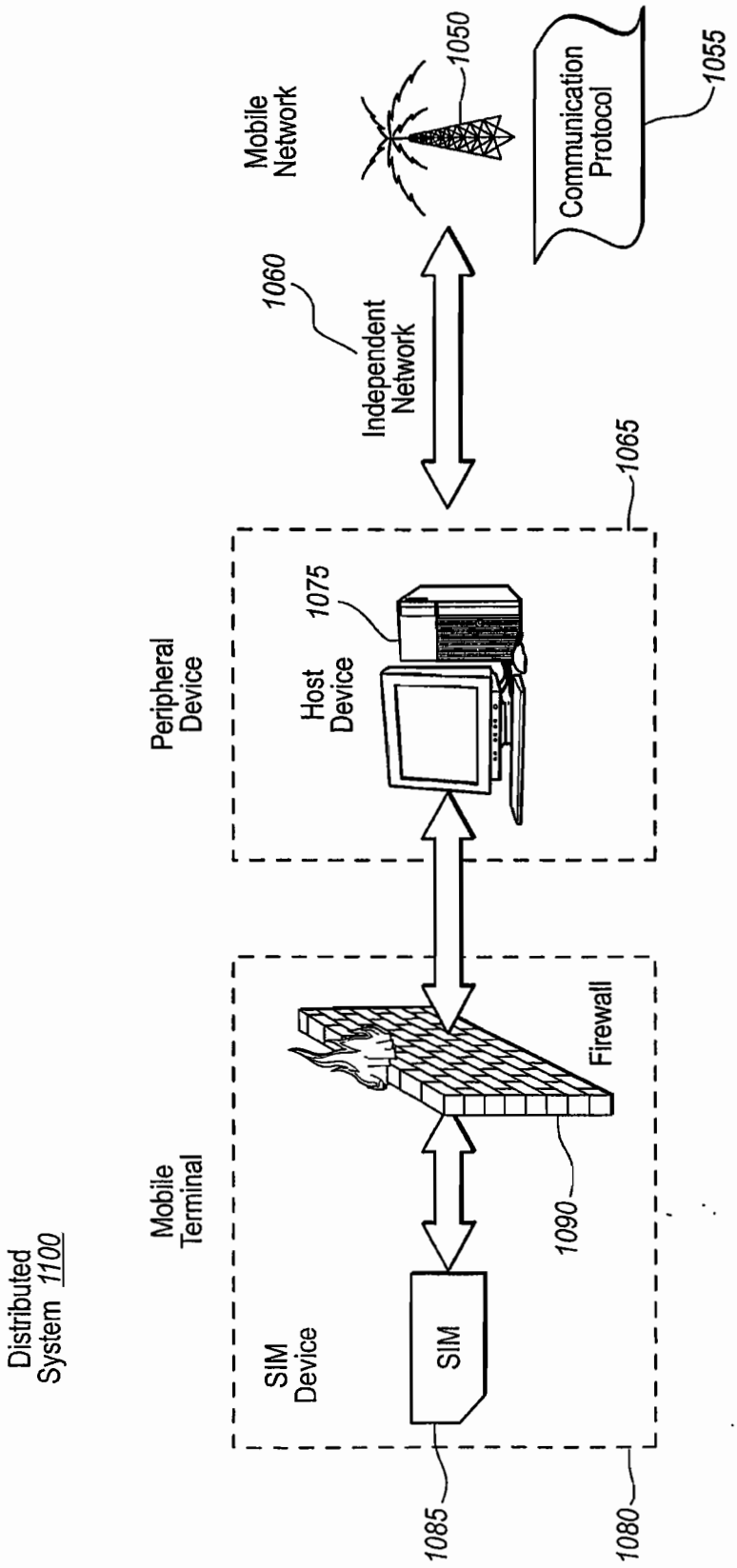
Distributed System 1100
Mobile Terminal
SIM Device
SIM
1085
1080
Firewall
1090
Peripheral Device
Host Device
1075
1065
1060
Independent Network
Mobile Network
1050
Communication Protocol
1055

FIG. 11